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THE SUMMER HOME OF BACHMAN'S WARBLER NO
LONGER UNKNOWN.A COMMON BREEDER IN THE ST. FRANCIS RIVER REGION OF SOUTH-
EASTERN MISSOURI AND NORTHEASTERN ARKANSAS.

BY O. WIDMANN.

THE first intimation of the breeding of Bachman's Warbler in the St. Francis region was had last year, when on May 7 and May 9 singing males were taken (Auk, XIII, 264). At that time no attempt was made to find the nest, though the condition of the testes showed that procreation was either going on, or not far distant.

May 8, 1897, I visited the same place again with the intention of settling the question, if possible. I had no trouble in finding several singing males on the day of my arrival at Kolb Island, Dunklin Co., Mo., on the Paragould and Southeastern railroad, 10 miles east of Paragould, Greene Co., Ark. An old male with deep black throat patch, extending over the breast and almost reaching to the bill, was evidently laboring under a severe spell of excitement and rattled off its little ditty with hardly any pauses at all. When singing he raised his head slightly, opened his bill as wide as he could, shook his wings violently, and his whole frame quivered as if in great ecstasy.

Next morning I visited him again and found him already in song at 5 A. M. In order to become perfectly acquainted with his song, to watch his movements, to see his mate, and possibly to get a clew where to look for the nest, I remained with him nearly the whole day, that is, from 5 to 7 and 8 to 12 A. M. and 3 to 5 P. M., when a heavy rainstorm came up. During these eight hours the bird kept singing nearly all the time at the rate of ten times a minute with the regularity of clockwork, and its sharp, rattling notes reminded me strongly of an alarm-clock. In this regard it recalls one of the performances of *Parula*, whose rattle is of the same length and quality, except that it has a certain rise at the end, by which it is easily distinguished. To my ear the Bachman's song comes nearest to that of the Worm-eating Warbler,

which is fortunately not found in swampland, but the Chipping Sparrow is, and, if the presence of the Bachman's Warbler is not suspected, it is indeed possible to mistake its song for a shrill variety of the Chippy's well-known ditty.

From a ten days' observation of the Bachman's Warbler, May 8 to 17 inclusive, it appears that the bird is very easily overlooked, even in a region where it is common. Its small size, its protective coloration, and its quiet ways combine to make it next to invisible among the heavy foliage of its habitat. The singing period is probably of short duration. Visits to neighboring islands, on both the Missouri and Arkansas sides, revealed the presence of a number of singing males, some with large, others with small and pale, throat patches, the former undoubtedly the older, the latter the younger individuals. On going over the same grounds repeatedly it was noticed that the intensity of their singing mood changed greatly; the old males, that were in a frenzy at the time of my arrival, sobered down, while the pale throats became gradually conspicuous and excited songsters. The time of nest building is probably the period of constant song, but after the eggs are deposited the desire for singing becomes so capricious that the locating and census-taking of the Bachman population is a time-consuming task.

Even if in song it takes minutes to find the bird, though he is generally seated on a dry or thinly-leaved branch at a height of twenty to forty feet from the ground. The reason why it is so difficult to locate him is his habit of pouring out his song into different directions, now to the right, then to the left, even turning entirely around on his perch. When he leaves, he is liable to fly quite a distance, far enough to get lost out of sight for the moment, and in the wildness of his home it takes several minutes to follow him over fallen trees and around impenetrable thickets or pools of water.

In spite of my careful watch for eight hours on the 9th, no clew to the location of the nest was had; the female was seen but twice and for seconds only, when the male darted down upon her, from his perch in the tree to the brambles below, where he caught hold of her, and a short squabble took place. This I took for a sign that she was sitting on eggs, for males often attack their mates

when they leave the nest. As was afterwards found, these attacks occurred far from the nest and could therefore not only give no clew, but were rather misleading. The trees, which the singing bird frequented, were scattered over an area of two acres, and to look over two acres of blackberry brambles among a medley of half-decayed and lately-felled treetops, lying in pools of water, everything dripping wet with dew in the forenoon, and steaming under a broiling sun in the afternoon, is no pleasant job. At first it seemed easy enough to find the nests after locating the males, but this proved to be a mistake.

Day after day I watched some of the males and searched the ground, but in vain. At last, on the morning of the 13th, I saw the female of No. 1, slip down into a bush with a dry grassblade in the bill. Now it was comparatively easy to find the nest, but I was surprised to see it almost ready to receive the eggs and, without doubt, built during my presence on the grounds the last few days. Though many hours had been spent within a few rods of the nest the female was only seen once in the trees which the male frequented, when she was feeding for a few moments, picking small larvæ from the underside of the leaves of *Ostrya*, hanging titmouse-like at the edge of the leaf itself. When in the act of reaching overhead, the gray throat patch appeared with great distinctness. At 9 A. M. on the 14th, she was sitting on the nest and, when I returned an hour later, the first egg had been laid, an entirely white egg which contrasted strongly with the deep black rootlet-lining of the nest. On the next day, the 15th, the second egg was laid, and on the 16th, the third. She was still sitting on the nest in the afternoon and probably began brooding as soon as the third egg was laid. On the forenoon of the 17th, she was still sitting on three eggs, and when I found her again on the nest in the afternoon I considered the set of three eggs complete. At my approach she would not leave the nest until I could almost lay my hand upon her, when she quietly slipped out and disappeared behind the brambles. Only after she had begun brooding was she heard to complain with a very soft, hardly audible *tsip*. The cup of the nest being deep, only the head of the sitting bird can be seen, but her yellow face is quite characteristic. It consists of a yellow frontlet, set off by a narrow

margin of black, a yellow chin and yellow orbital region, in which the dark eye appears in sharp contour.

All three eggs are perfectly white and unspotted, and resemble in color, shape and size those of the Short-billed Marsh Wren. The nest was made of leaves and grass blades, lined with a peculiar black rootlet; it was tied very slightly to a vertical blackberry vine of fresh growth and rested lightly on another, which crossed the former at a nearly right angle. From above it was entirely hidden by branchlets of latest growth, and the hand could not have been inserted without at first cutting several vines, overlying it in different directions. It was two feet from the ground, and to reach the place it was necessary to go through pools of water and over heaps of fallen trees and brush. Such sheltered places are probably chosen to avoid the danger of being trampled down by hogs and cattle, roving in these woods.

There is little danger from egg-collectors; even the natives are seldom seen entering these thickets after the first of May, not so much for fear of thorns and mosquitos or poisonous snakes, but for fear of that greatest curse of these beautiful forests, the ticks, of which they distinguish three kinds: the ordinary wood tick, a comparatively harmless creature, as it is easily picked off before great damage is done; the seed tick, which is already more to be dreaded because of its smaller size; but the worst of all is the jigger or chigger, which is so small as to be hardly seen with the naked eye until it has entered the skin where it causes restless nights and suffering for weeks. This worthy trio forms a society for the protection of birds, more powerful than the best state laws.

There is probably no region in the whole United States so rich in bird life as those islands, not only in the large number of species, but, still more, in the number of individuals. Some of the choicest beauties, such as Prothonotary, Hooded and Kentucky Warblers are not only present, but we hear or see them at almost every step. On a sultry day in May the music from so many throats of summer sojourners is grand and impressive, but it is made still more imposing and perplexing by the musical efforts of twenty and odd different species of transients, and by the noisy fledgelings of the first brood of permanent residents.

To a practiced ear this is a rich harvest, and there is probably no place where the rarer transients are so commonly met with and so often heard to sing as here in this wild gum-boot region of southeast Missouri, where the rivers have no banks, and a rise of a few feet inundates thousands of square miles. Every spring at least one half of the area is under water, but even the highest floods, among them that of 1897, cannot submerge the entire area, though it may lack only a few feet; so large is the expanse of lowland, over which the water has to spread. Kolb Island with its 140 acres had less than 40 acres of dry land at the time of my visit, though the water had already gone down over a foot and a half from its highest stage in April.

The whole St. Francis basin is a network of sloughs, in reality only arms of the St. Francis River; they have very narrow channels free from treegrowth, but overgrown with wild rice (*Zizania miliacea*), different kinds of smartweed, mostly the large southern kind, *Polygonum densiflorum*, and the channel itself is closed up in summer by a dense growth of lotus (*Nelumbium*). This narrow, treeless, channel region merges into the tupelo and taxodium belt, the region of regular yearly overflow of several months' duration, in some years hardly getting dry at all.

Then comes the region of irregular overflow of shorter duration, grown with sweetgum, blackgum, water and willow oaks, ashes, cottonwood, hackberry and, on the higher levels, white and cow oaks, pin oak, red oak, walnuts and hickories, elms and two scores of others, among them the ornamental catalpa and tulip trees and, last but not least, the mulberry. From the ornithologist's standpoint this latter is a valuable constituent of the sylvia. Its fruit begins to ripen early in May and is a great attraction for a number of birds throughout the month. I am inclined to think that the mulberry has something to do with the melodious moods and late loitering of many northbound wanderers, especially the Alice Thrushes, some of which were seen lingering into June.

[Description of the nest and eggs of *Bachman's Warbler* (*Helminthophila bachmanii*).—Mr. Widmann having requested me to describe the nest and eggs referred to in the preceding article I take pleasure in doing so.

Nest a somewhat compressed compact mass composed externally of dried weed- and grass-stalks and dead leaves, many of the latter partially skeletonized; internally composed of rather fine weed- and grass-stalks, lined with black fibres, apparently dead threads of the black pendant lichens (*Ramalina*, species?) which hang in beard-like tufts from button-bushes (*Cephalanthus*) and other shrubs growing in wetter portions of the western bottom-lands. The height of the nest is about $3\frac{1}{2}$ inches; its greatest breadth is about 4 inches, its width in the opposite direction being about 3 inches. The cavity is about $1\frac{1}{2}$ inches deep and $1\frac{1}{2} \times 2$ inches wide.

The eggs are of very regular ovate form, and entirely pure white in color, their measurements being as follows:—No. 1, 0.63×0.48 ; No. 2, 0.64×0.49 ; No. 3, 0.63×0.49 .—ROBERT RIDGWAY.]

PRELIMINARY DESCRIPTIONS OF NEW BIRDS FROM MEXICO AND ARIZONA.

BY FRANK M. CHAPMAN.

THE material on which the following descriptions are based was in part secured by the writer during April, 1897. The relationships of the forms here described will be discussed more fully in a subsequent paper. Thanks are due Dr. C. W. Richmond, Assistant Curator of the Department of Birds, U. S. National Museum, for the loan of specimens of *Coccothraustes* and *Spinus*.

***Contopus pertinax pallidiventris*, subsp. nov.**

Chars. subsp.—Similar to *Contopus pertinax* Cab. but with the under parts, especially the centre of the abdomen, whiter, the upper parts paler, the crown of practically the same color as the back. Wing, 4.48; tail, 3.51; tar., 62; ex. cul., 72.

Type.—Am. Mus. Nat. Hist., No. 29007, ♂ ad., Pima County, Arizona. Collected by W. E. D. Scott, April 22, 1885.

Cabanis's type of *pertinax* was from 'Jalapa,' but it is doubtful if the species breeds in the immediate vicinity of that city.